CLAIMS

What is claimed is:

1. A method of calculating network latency, the method including:

correlating a first packet identifier recorded at a first network location with a second packet identifier recorded at a second network location, wherein the first and second packet identifiers indicate a common first packet and have respective first and second timestamps associated therewith; and

calculating a first network traversal time for the first packet as the difference between the first and second timestamps associated with the first and second packet identifiers respectively.

2. The method of claim 1 wherein the first packet identifier and the first timestamp are contained in a first trace file captured at the first network location, and wherein the second packet identifier and the second timestamp are contained in a second trace file captured at the second network location.

3. The method of claim 1 including at least partially merging the first and second trace files into a merged file, the merged file containing an entry

for each correlation of a first packet identifier with a second packet identifier.

4. The method of claim 1 wherein the correlating includes correlating the first packet identifier with multiple packet identifiers recorded at the second network location as a result of fragmentation of the first packet during transmission from the first network location to the second network location.

5. The method of claim 4 wherein the calculating includes calculating multiple traversal times as the respective differences between the first timestamp and each of multiple timestamps associated with the respective multiple packet identifiers.

6. The method of claim 5 including identifying a minimum traversal time from among the multiple traversal times as a selected offset.

7. The method of claim 1 including determining whether clock drift influenced a plurality of traversal times for a plurality of packets transmitted between the first and second network locations and, if so, then adjusting the plurality of traversal times to compensate for the clock drift.

8. The method of claim 7 wherein the adjusting of the plurality of traversal times includes calibrating each of a plurality of timestamps associated with a plurality of packet identifiers recorded at the second network location.

9. The method of claim 1 wherein bi-directional packet transmissions occur between the first and second network locations, and the correlating includes determining a direction of transmission of the first packet between the first and second network locations.

10. The method of claim 1 wherein the first packet is transmitted from the first network location to the second network location, the method including correlating a third packet identifier recorded at the second network location with a fourth packet identifier recorded at the first network location, wherein the third and fourth packet identifiers identify a second packet transmitted from the second network location to the first network location responsive to the first packet, and wherein the third and fourth packet identifiers have respective third and fourth timestamps associated therewith.

11. The method of claim 10 including calculating a second network traversal time for the second packet as the difference between the third and fourth timestamps.

12. The method of claim 11 including calculating an average traversal time between the first and second network locations as the average of the first and second network traversal times.

13. The method of claim 11 wherein the first and second network traversal times are minimum traversal times for fragmented transmissions of the first and second packets respectively.

14. The method of claim 12 including adjusting at least the first traversal time based on the average traversal time.

15. The method of claim 12 including adjusting the first and second traversal times based on the average traversal time.

16. The method of claim 14 wherein the adjusting includes calibrating timestamps associated with the second network location utilizing the average traversal time.

17. The method of claim 1 including outputting at least the first traversal time.

18. The method of claim 17 wherein the outputting comprises generating a graphical display of the first traversal time.

19. A system to calculate network latency, the system including:

a correlation engine to correlate a first packet identifier recorded at a first network location with a second packet identifier recorded at a second network location, wherein the first and second packet identifiers indicate a common first packet and have respective first and second timestamps associated therewith; and

a synchronization engine to calculate a first network traversal time for the first packet as the difference between the first and second timestamps associated with the first and second packet identifiers respectively.

20. The system of claim 19 wherein the first packet identifier and the first timestamp are contained in a first trace file captured at the first network location, and wherein the second packet identifier and the second timestamp are contained in a second trace file captured at the second network location.

21. The system of claim 19 wherein the synchronization engine is to at least partially merge the first and second trace files into a merged file, the

merged file containing an entry for each correlation of a first packet identifier with a second packet identifier.

22. The system of claim 19 wherein the correlation engine is to correlate the first packet identifier with multiple packet identifiers recorded at the second network location as a result of fragmentation of the first packet during transmission from the first network location to the second network location.

23. The system of claim 22 wherein the synchronization engine is to calculate multiple traversal times as the respective differences between the first timestamp and each of multiple timestamps associated with the respective multiple packet identifiers.

24. The system of claim 23 wherein the synchronization engine is to identify a minimum traversal time from among the multiple traversal times as a selected offset.

25. The system of claim 19 wherein the synchronization engine is to determine whether clock drift influenced a plurality of traversal times for a plurality of packets transmitted between the first and second network locations and, if so, then to adjust the plurality of traversal times to compensate for the clock drift.

26. The system of claim 25 wherein the synchronization engine is to calibrate each of a plurality of timestamps associated with a plurality of packet identifiers recorded at the second network location.

27. The system of claim 19 wherein bi-directional packet transmissions occur between the first and second network locations, and the correlation engine is to determine a direction of transmission of the first packet between the first and second network locations.

28. The system of claim 19 wherein the first packet is transmitted from the first network location to the second network location, the correlation engine is to correlate a third packet identifier recorded at the second network location with a fourth packet identifier recorded at the first network location, wherein the third and fourth packet identifiers identify a second packet transmitted from the second network location to the first network location responsive to the first packet, and wherein the third and fourth packet identifiers have respective third and fourth timestamps associated therewith.

29. The system of claim 28 wherein the synchronization engine is to calculate a second network traversal time for the second packet as the difference between the third and fourth timestamps.

30. The system of claim 29 wherein the synchronization engine is to calculate an average traversal time between the first and second network locations as the average of the first and second network traversal times.

31. The system of claim 28 wherein the first and second network traversal times are minimum traversal times for fragmented transmissions of the first and second packets respectively.

32. The system of claim 30 wherein the synchronization engine is to adjust at least the first traversal time based on the average traversal time.

33. The system of claim 30 wherein the synchronization engine is to adjust the first and second traversal times based on the average traversal time.

34. The system of claim 32 wherein the synchronization engine is to calibrate timestamps associated with the second network location utilizing the average traversal time.

35. The system of claim 19 including a visualization module to output at least the first traversal time.

36. The method of claim 35 wherein the visualization module is to generate a graphical display of the first traversal time.

37. A computer-readable medium storing a sequence of instructions that, when executed by machine, causing machine to perform method of calculating network latency, the method including:

correlating a first packet identifier recorded at a first network location with a second packet identifier recorded at a second network location, wherein the first and second packet identifiers indicate a common first packet and have respective first and second timestamps associated therewith; and

calculating a first network traversal time for the first packet as the difference between the first and second timestamps associated with the first and second packet identifiers respectively.